



## **Environmental Assessment For 2020 Quartz Nominations Project**

**Responsible Agency:**  
U.S. Forest Service  
Ouachita National Forest  
Caddo-Womble Ranger District

**Responsible Official:**  
, District Ranger  
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**November 2020**

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# INTRODUCTION

## Purpose and Need for Action

The purpose of this action is to allow the extraction of quartz as required by 36 CFR 228C and FSM 2850 Supplement: R8-2800-2002-2. According to the Mining and Minerals Policy Act of 1970, it is the continuing policy of the federal government to foster and encourage private enterprises in the exploration, development and production of mineral and energy resources. The nomination fees for 10 separate tracts has been submitted to the Caddo-Womble Ranger District, and the Forest Service must now determine whether quartz explorations and mining should be completed on these tracts.

## Proposed Action

The Forest Service proposes to allow quartz exploration and mining operations on 10 tracts of land consisting of 330 acres in the following locations of Montgomery County, Arkansas:

Tract ID	Acres	Township	Range	Sections
OQC-283P	80	T2S	R25W	Section 29 Section 30
OQC-286R	10	T3S	R25W	Section 12
OQC-290P	80	T3S	R24W	Section 4 Section 9
OQC-291P	20	T3S	R24W	Section 9
OQC-296P	35	T3S	R24W	Section 19
OQC-297P	40	T3S	R24W	Section 3 Section 10
OQC-298R	10	T3S	R24W	Section 3 Section 10
OQC-299R	10	T3S	R24W	Section 3 Section 10
OQC-300	30	T2S	R25W	Section 11 Section 14

OQC-301	15	T2S	R25W	Section 8 Section 9
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Timber impacted by mining operations would be sold using the most appropriate method of disposal. Reclamation would include topsoil reapplication, recontouring of the surrounding terrain, fertilizing and revegetating with site-specific seed mixture, and replanting with seedlings until adequately stocked. Access would be provided using a combination of existing National Forest System (NFS) roads and approximately 3 miles of roads not in the NFS that will be added. (see enclosed map with approximate locations).

## Issues

Three issues were identified during scoping:

- Mining activities may reduce lands suitable for timber production.
- Mining activities resulting in top soil removal and stock piling may compromise soil productivity.
- Alexa Spring Water Company is concerned about blasting negatively impacting water quality of their spring water.
- Mining activities may remove Ozark Chinquapin individuals.

## ALTERNATIVES, INCLUDING THE PROPOSED ACTION

### Alternatives

#### Alternative 1

##### *The Proposed Action*

The Forest Service proposes to allow quartz exploration and mining operations on 10 tracts of land consisting of 330 acres in the following locations of Montgomery County, Arkansas:

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OQC-297P	40	T3S	R24W	Section 3 Section 10
OQC-298R	10	T3S	R24W	Section 3 Section 10
OQC-299R	10	T3S	R24W	Section 3 Section 10
OQC-300	30	T2S	R25W	Section 11 Section 14
OQC-301	15	T2S	R25W	Section 8 Section 9

Timber impacted by mining operations would be sold using the most appropriate method of disposal. Reclamation would include topsoil reapplication, recontouring of the surrounding terrain, fertilizing and revegetating with site-specific seed mixture, and replanting with seedlings until adequately stocked. Access would be provided using a combination of existing National Forest System (NFS) roads and approximately 3 miles of roads not in the NFS that will be added. (see Figure 1. Proposed Action).

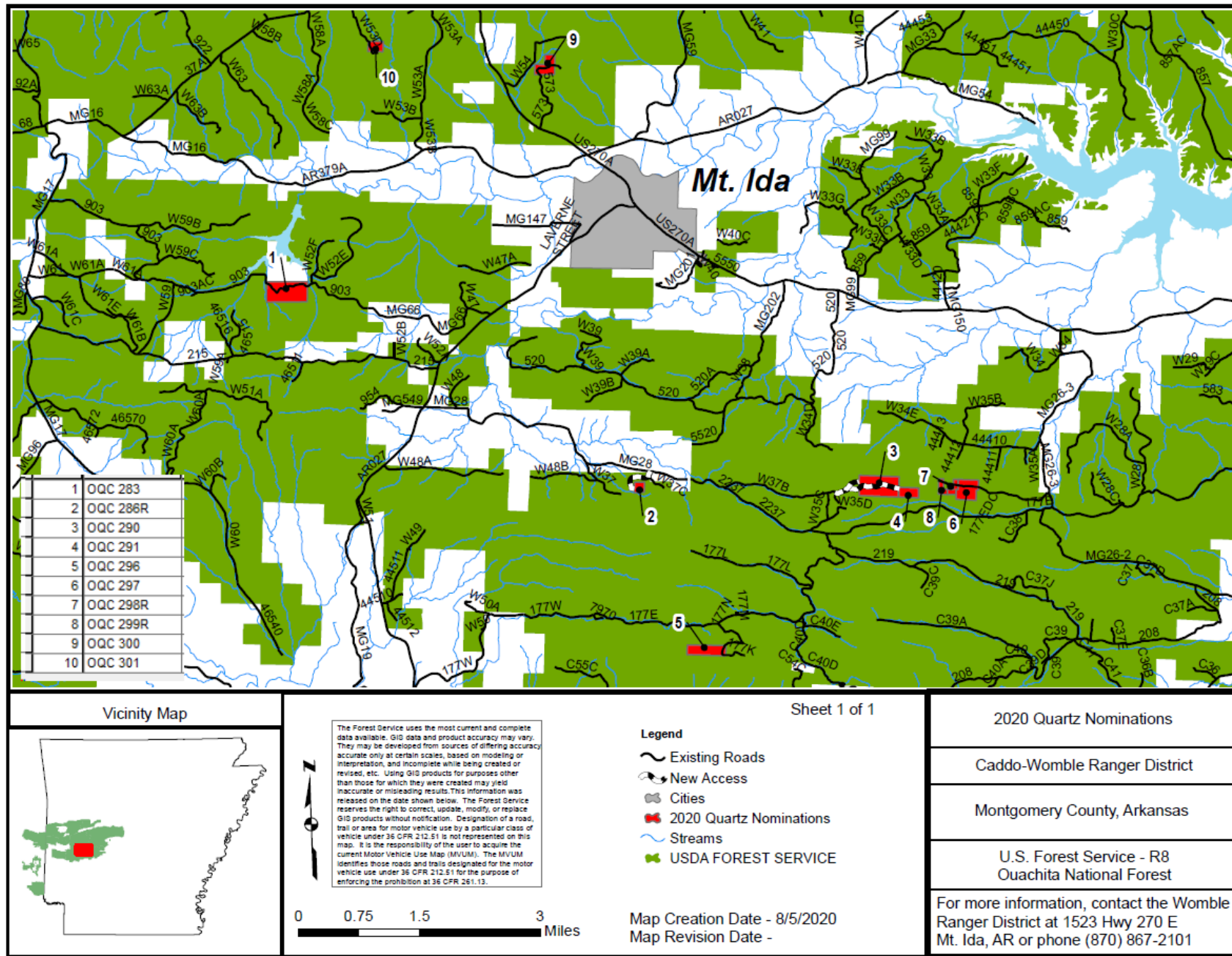


Figure 1. Proposed Action.

## **Project Design Criteria** \_\_\_\_\_

The following measures are incorporated in the proposed action to reduce or avoid project-related impacts.

21.10 Common variety mineral-related operations can have no more than one-half acre of surface impact unreclaimed during the course of the operation. (Revised Forest Plan, p. 110) (All or parts of OQC-290, OQC-291, OQC-297, OQC-298R, & OQC-299R)

### **Appendix B – Minerals**

Require appropriate mitigation and reclamation of environmental disturbance for all mineral exploration and development proposals to achieve the planned uses specified in the Forest Plan, when those lands are no longer needed for mineral operations. (Revised Forest Plan, p. 155)



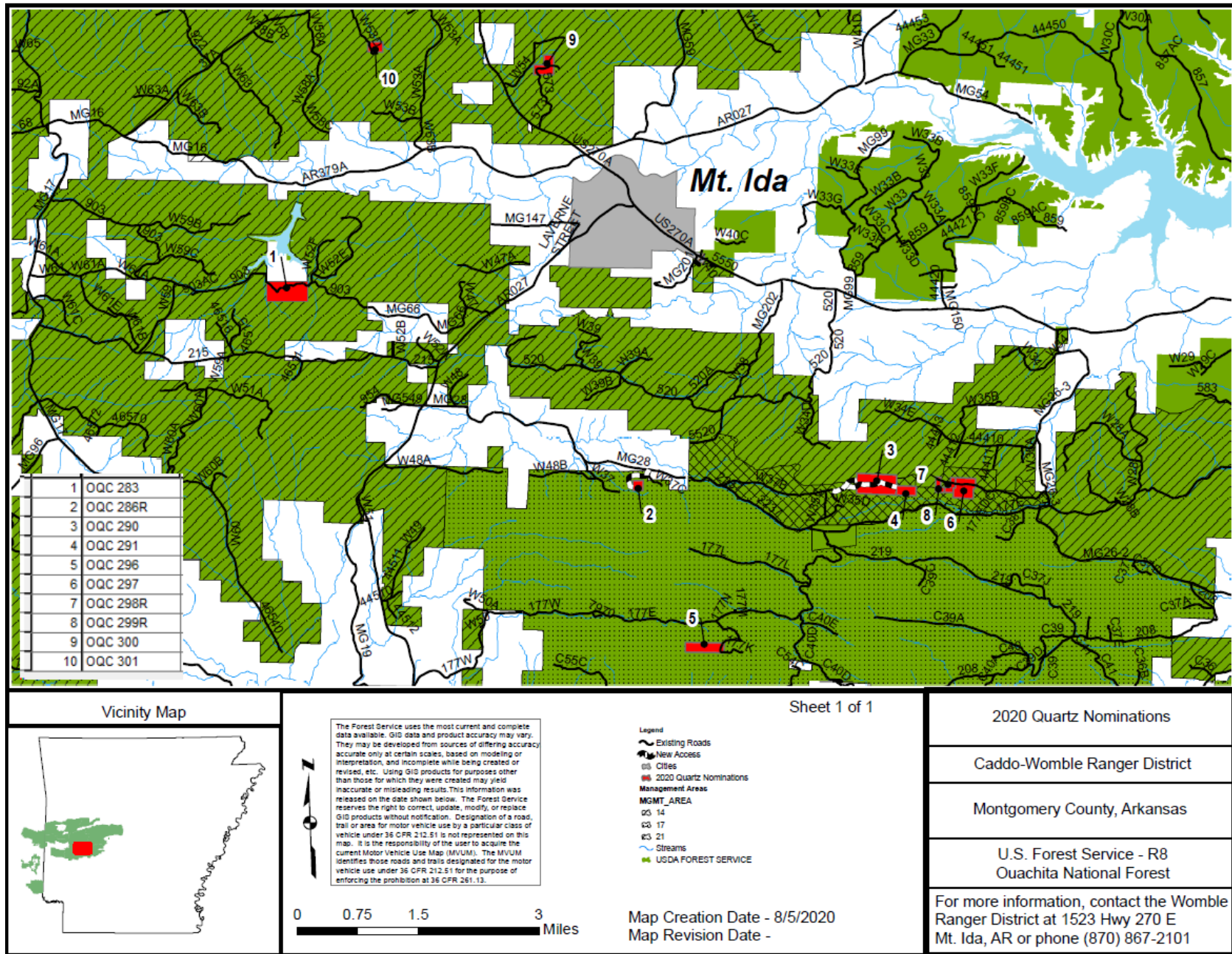


Figure 2. Management Areas.



## ENVIRONMENTAL CONSEQUENCES

### Project Issue Effects

**Issue:** Mining activities may reduce lands suitable for timber production.

The nominated tracts are comprised of mature shortleaf pine and oak forest types with an approximate 90 basal area per acre, totaling 8.2 ccf of timber volume per acre. These contracts may be renewed every five years into perpetuity, taking these areas out of timber production. The NFS Land Class would be changed to 240, an unsuitable land class; this acreage would no longer be part of the suitable land base; it would be reduced by 330 acres.

**Issue:** Mining activities resulting in top soil removal and stockpiling may compromise soil productivity.

The depth of the stockpile and the length of time it is stored affect the quality of the soil at replacement (Strohmayer, 1999). In order to retain soil productivity, topsoil should be stockpiled for as short a time period as possible, and topsoil piles should be as shallow as possible. Since the nominated tract would be classified as unsuitable, soil productivity would no longer be a concern for timber production.

**Issue:** Alexa Spring Water Company is concerned about blasting negatively impacting water quality of their spring water.

Some mining activity would occur within two to three miles of a spring water bottling facility located on private land. Due to concerns, blasting would not be used for mining activities on OQC-283, OQC-286R, OQC-290, OQC-291, and OQC-296.

**Issue:** Mining activities may remove Ozark Chinquapin individuals.

Ozark Chinquapin, a forest sensitive species, was found scattered across the southern portions of the permitted area. As a result of the chestnut blight, reproducing populations of Ozark Chinquapins are rare. To protect these trees, mining activity would not be allowed in the area containing these species on OQC-290. (See Figure 3. OQC-290 Avoidance Areas)

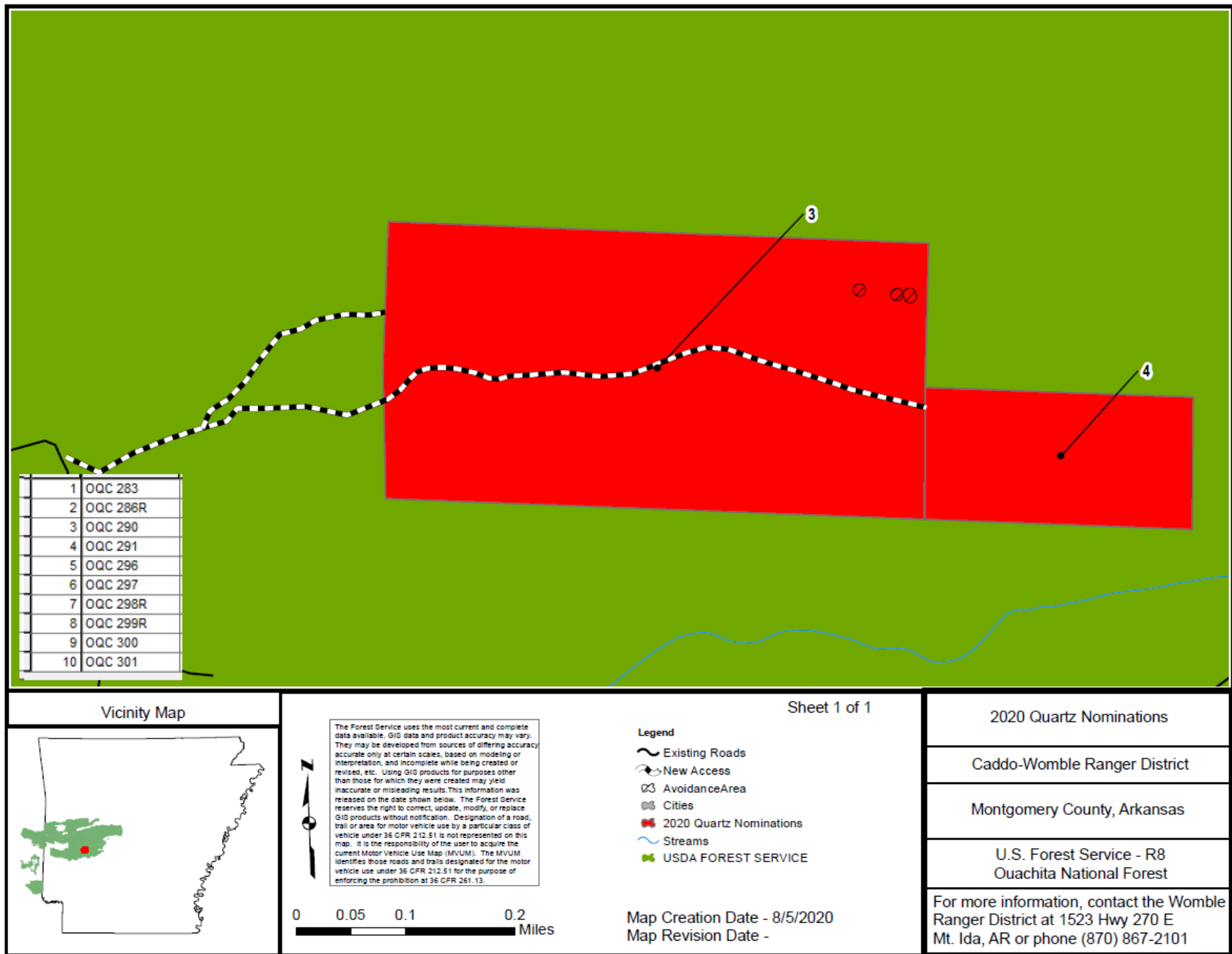


Figure 3. OQC-290 Avoidance Area.

## Cultural and Historical Resources

This project would occur in newly and previously surveyed areas. As documented in Ouachita Cultural Resource Report Number 535, there are no known archeological sites located within or near the project; there are no known National Register of Historic Places (NHRP) sites located within or near the project area. The proposed action would have no effect on historic properties or cause loss or destruction of cultural resources.

## Public Health or Safety

Public health and safety permit stipulations would be adhered to by the mine operator, including installation of fencing material and hazard warning signs around vertical walls (“high-walls”) to block free access to the edge of hazardous working faces. No adverse effects on public health or safety would be expected to occur.

## Management Indicator Species (MIS) and Habitat

The entire list of 24 MIS was reviewed and a subset of 12 was selected for this project as shown in the table below.

Life Form	Scientific Name	Common Name	Primary Reason for Selection <i>To help indicate effects of management</i>
Mammal	<i>Odocoileus virginianus</i>	white-tailed deer	Meeting public hunting demand
Bird	<i>Colinus virginianus</i>	northern bobwhite	Meeting public hunting demand, and the pine-oak woodland community
Bird	<i>Dendroica discolor</i>	prairie warbler	The early successional component of forest communities
Bird	<i>Meleagris gallopavo</i>	eastern wild turkey	Meeting public hunting demand
Bird	<i>Dryocopus pileatus</i>	pileated woodpecker	Snags and snag-dependent species
Bird	<i>Piranga olivacea</i>	scarlet tanager	Mature forest communities
Fish	<i>Camptostoma spadiceum</i>	highland stoneroller	Aquatic habitat and water quality in streams within the Ouachita Mountain Ecoregion
Fish	<i>Etheostoma radiosum</i>	orangebelly darter	
Fish	<i>Fundulus catenatus</i>	northern studfish	
Fish	<i>Lepomis cyanellus</i>	green sunfish	
Fish	<i>Lepomis megalotis</i>	longear sunfish	
Fish	<i>Luxilus chrysocephalus</i>	striped shiner	

All species of mammals and birds that occur within the project area during activities may be disturbed. If activities take place during nesting season, nests may be destroyed and individuals may become displaced.

Mining activities within the lease area boundaries would result in a loss of mature forest habitat. However, once reclaimed, early seral habitat would be created, after reclamation of the mining area occurs. These activities would change the habitat, by removing trees,

and would negatively impact the pileated woodpecker and scarlet tanager via reduction of old-growth; however, it would positively impact habitat for white-tailed deer, northern bobwhite, prairie warbler, and eastern wild turkey through the creation of early seral habitat, once the disturbed areas are reclaimed. Disturbance from noise and general human activity may impact the species during mining activities. These activities would occur for the life of the mine, which could last for decades, depending on productivity of the mine.

White-tailed deer, northern bobwhite, prairie warbler, and eastern wild turkey are MIS species representing early successional habitats, generally fair better under the Proposed Action than under the No Action Alternative. There would be no direct affect to deer but some of the avian nests may be disturbed if activities occur during nesting season. Indirectly, the habitat that all these species prefer could be improved by the Proposed Action. These species would benefit from the overall effects of the Proposed Action by the enhancement of food and cover.

Prairie Warbler is an MIS for Adequate Early Forest Stage Cover. Its requirements can be met by forest stands under the age of 20 and by prescribed burning in open pine stands. Treatments in the Proposed Action lead to improve habitat levels following treatments. There would be no appreciable direct affect to the prairie warbler through nest disturbance because the area is currently in unpreferred habitat for this species. Indirectly, with the implementation of the Proposed Action, more of the preferred habitat of the prairie warbler would be produced enhancing nesting cover and the abundance of food, supporting a positive population trend.

Best Management Practices (BMPs) for Management Area 9 would be applied for riparian areas, consisting of no surface disturbance within 30 feet from the streams. These BMPs protect waterways, during the implementation phase of the project, from sediment caused by the project activities from entering a stream, and avoids negative impacts on water quality and aquatic habitat. Stream crossings would also be protected with the BMPs, with adequate measures to avoid degradation of water quality and aquatic habitat. Once the project and reclamation is completed, erosion from the access road and mine would be reduced, lessening potential adverse impacts to water quality, and aquatic habitat would be improved. Natural vegetation would begin and continue, in various stages of succession.

### Cumulative Effects

The Proposed Action alternative would have no appreciable direct, indirect, or cumulative effects on stream habitats and the associated aquatic MIS. All streams would be protected from the direct effects of mineral exploration activities by requirements in the Revised Forest Plan, Management Area 9, Objectives 9.15 and 9.16. There are no past, present or reasonably foreseeable actions that would have appreciable negative effects on Forest-wide trends of terrestrial MIS or their habitat, because the total acres of disturbance is <0.2% of the total land on the District, and <0.03 on the Forest.

### Proposed, Threatened, Endangered, and Sensitive Species

Six Forest Sensitive species were evaluated in a Biological Evaluation for this project (BE, August 20, 2018) and a Northern Long-Eared Bat 4(d) Rule Streamlined Consultation Form will be used for the NLEB consultation. Species analyzed are listed in the table below.

Life Form	Scientific Name	Common Name	Status
Mammal	<i>Myotis septentrionalis</i>	northern long-eared bat	Threatened
Mammal	<i>Myotis austroriparius</i>	southeastern myotis	Sensitive
Mammal	<i>Perimyotis subflavus</i>	tricolored bat	Sensitive
Insect	<i>Danaus plexippus</i>	Monarch butterfly	Sensitive
Insect	<i>Callophrys</i>	Frosted elfin	Sensitive
Plant	<i>Castanea pumila</i> var. <i>ozarkensis</i>	Ozark chinquapin	Sensitive
Plant	<i>Cypripedium kentuckiense</i>	Kentucky lady's slipper	Sensitive

This project is likely to adversely affect the northern long-eared bat; however, there are no effects beyond those previously disclosed in the programmatic biological opinion on implementing the final 4(d) rule dated January 5, 2016, signed by Lynn Lewis. Any taking that may occur incidental to this project is not prohibited under the final 4(d) rule (50 CFR §17.40(o)). This project is consistent with the Forest Plan, the description of the proposed action in the programmatic biological opinion, and activities that do not require special exemption from taking prohibitions applicable to the northern long-eared bat; therefore, the programmatic biological opinion satisfies the Forest Service's responsibilities under ESA section 7 (a)(2) relative to the northern long-eared bat for this project.

This project may impact individuals, but is not likely to cause a trend toward federal listing or loss of viability of the southeastern myotis, tricolored bat, Monarch butterfly, frosted elfin, Ozark chinquapin, and Kentucky lady's slipper. Ozark chinquapin occurs in the 290 mining area and may occur in the other mining areas, but all chinquapins will be avoided if identified. No other PETS species were observed in the project areas during surveys; however, frosted elfin have previously been recorded in the 284 mining area, and Kentucky lady's slipper occurs near the mining areas south and southwest of Mount Ida.

There are no past, present or reasonably foreseeable actions that would have appreciable negative effects on Forest-wide trends of PETS species or their habitat. The total acres of disturbance is <0.2% of the total land on the District, and <0.03 on the Forest.

### Unique Characteristics of the Geographic Area

There are no park lands, prime farmlands, wetlands, roadless areas, wild and scenic rivers, wilderness, or ecologically critical areas to be affected. The closest wild and scenic river, Ouachita River (scenic, recreation), is approximately 1 mile to the northwest. The closest inventoried roadless area, Bear Mountain, is approximately 9

miles to the east. The closest wilderness, Caney Creek Wilderness, is 27 miles southwest. The effects on historic and cultural resources are disclosed on page four.

### **Quality of the Human Environment**

The effects of the proposed activities are not known to be controversial in the scientific community.

### **Uncertainty**

There are no effects that are highly uncertain or involve unique or unknown risks. The project is not unique or unusual. The Forest Service has experience implementing similar actions in similar areas. The environmental effects to the human environment are analyzed in this EA.

### **Precedent for Future Actions**

This project neither establishes a precedent nor represents a subsequent decision in principle about future actions. Crystal mining has been occurring for many years. A decision to allow continued mining would not limit later resource management decisions.

### **Cumulative Effects**

There are no other past or ongoing activities that would result in additive effects with this project.

### **Federal, State, or Local Laws**

The proposed actions would not violate any known Federal, State, or local law or requirement imposed for the protection of the environment. They are consistent with the Revised Forest Plan and applicable policies and programs.

## **CONSULTATION AND COORDINATION**

### **Coordination**

Steve Belcher	Minerals/Forestry Technician
Susan Hooks	Forest Botanist
Anthony Lowey	Forester
Brandon Morris	Timber Sale Administrator
Andrew McCormick	Forest Geologist
David Probasco	Wildlife Biologist
Derek Rollins	Wildlife Technician
Laura Donaldson	District Archeologist
Chip Stokes	District NEPA Coordinator
David Whitmire	Archeological Technician

Deanna Younger      Other Resources Assistant

## **Consultation**

Caddo Nation of Oklahoma

The Osage Nation

Quapaw Tribe of Oklahoma

State Historic Preservation Office

US Fish & Wildlife Service